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SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

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Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

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CORRELATING HEALTH EDUCATION AND HEALTH SERVICE IN THE SCHOOL HEALTH

Program: The Function of the School Nurse Teacher

MRS. ALICE B. NELSON

School Nurse: Schenectady, N. Y.

Health education includes any program of activities or any individual effort which results in desirable changes in health behavior.

The basic principle in health education is to acquaint people with the scientific facts upon which healthful living is based. A good program of health education has as its criterion the democratic philosophy of helping people help themselves by learning how to promote health, prevent disease, care for minor illness in the home, render first aid to injury and seek experienced medical aid at the proper time. It does not superimpose corrective procedure because the principle of the family being the unit in our American democracy is basic to consideration for aid. It endeavors to help people gain satisfactory perspective in seeking public assistance when it is economically necessary.

Because of her training, postgraduate work and experience in matters pertaining to health and education, the school nurse-teacher is in an excellent position to contribute much in the Health Education field. To date her services are not utilized as extensively as they might be. Perhaps this is because her potentialities as an educator are not as yet fully realized.

The scope of health education includes the total health of all age groups with whom the nurse comes in contact in the home, school and community; namely, all adults, including parents, teachers, principals, custodians and childrens' relatives and all children both school age and preschool and infants in the home. Specific instances in which the school nurse-teacher can and does contribute positively to health education are the following:

1. She should discharge her functions in such a way that student participation becomes in itself a learning experience.

2. She should conduct instruction through individual conferences with pupils, teachers, and parents weaving together this

instruction with the experiences of the health service and the needs discovered. Too often the teaching experiences are considered merely as service. The services are not complete unless they are used as a basis for health teaching. Although the concept of health education in the classroom is readily understandable as an educational experience, perhaps some of the best teaching can be done through individual contact as the learner is ready for this teaching since he recently has had a problem which definitely concerns him, for example: (a) snowballing having produced an eye injury; (b) social responsibility of the child with a cold to his classmates.

3. She should collect information from the home and make it a matter of record which can be utilized by the curriculum committee of which she should be a member.

4. The nurse should keep the school in touch with the purposes and programs of other social and health organizations so that teachers can help pupils learn their use and appreciate community responsibility for their promotion.

5. The nurse should contribute to group instruction as follows:

a. She may, by invitation of the teacher lead class discussions on health subjects or act as health education supervisor as the supervisor of music or art does in their respective fields.
b. She may put on a series of demonstrations of health procedures, especially as supplement to instruction in home economics.
c. She may address parent-teacher organizations and keep the needs of the school before teachers through regular teacher meetings either directly or through the principal of the school.
d. She may be a regular teacher of hygiene.
e. She may provide the school with criteria for scientific health teaching and for the selection of materials of instruction.
f. Her contribution to the field of guidance is valuable because of her broad base in psychology and mental hygiene and her contacts with people of all ages in varied social, emotional, economic and health circumstances. In the use of guidance technics she considers all members of the family and their relationships at the respective age levels of each member. She realizes that each contact

represents a form of treatment or reeducation in attitudes. Because of her public health nursing experience, she is well versed in the technics of the interview. She usually has good rapport with the families because she has been able to contribute something concrete to the problems of health and illness in the home. One of her objectives is to help the parent unload feelings of guilt and to help him build his plan for the student under consideration. Frequent contacts with the child who is having behavior difficulty bridges the gap between classroom guidance, home guidance and the interviews that take place in the guidance office.

In evaluating the school's responsibility to the health of the student and teaching personnel much consideration should be given to varying health needs. Some of the salient factors will be considered here.

In educating for physical competence, a strong, well balanced physical education program is essential. Gymnasium activities should be modified according to the physical capabilities of the student. This consideration is usually given by the physical education instructor but the program can be extended with fewer complete gym exclusions when more teachers are available. It is essential to have corrective posture classes at all levels. Showers after gymnasium activities are the accepted procedure. It follows that adequate laundry facilities will be provided.

Equipment and physical surroundings must receive scientific consideration. Adequate seating facilities should be provided with consideration being given to the continuous growth of children as well as to the emphasis on informality in modern education.

Lighting facilities may be evaluated to include natural lighting and artificial lighting. Natural lighting should be utilized as much as possible with window placement being adequate and including twenty per cent of the floor space. Shades should be arranged so that light from the upper half of the window is less obstructed by having two shades on each window, one rolling up and the other down. Windows should be clean, and tables and chairs should be arranged so that there is a minimum of glare. Walls should be cleaned and painted at regular intervals, with the selection of the color of the paint according to the exposure of the room. Blackboards should be replaced promptly when they are worn and should be on the slant of easels. Surveys should be made to consider the adequacy of artificial lighting by use of the

light meter. Often such lighting can be improved by cleaning light bulbs and globes.

Playgrounds should be adequately fenced and surfaced, with the repair of holes being continuous.

Adequate hand-washing facilities should be provided throughout the school as well as in the nurse's office.

Ventilation does not need to be mechanical, the criteria for good ventilation being emphasis on temperature, humidity and movement.

Drinking facilities should have continuous supervision. The water should be chemically safe, the flow from the water bubbles should rise at least three inches and with sufficient force that the mouth does not come in contact with the metal. Bubblers should be placed low enough for the younger children and if they are not, stools should be placed in front of them.

Medical services should be provided for the discovery of remedial defects. The school physician and nurse-teacher play the most significant role in this function. Where funds are available the employment of dental hygienists is the accepted procedure. The classroom teacher is in an excellent position to detect unfavorable symptoms in her pupils and then to make prompt referral. Periodic examination, however, by the school physician and the nurse-teacher is indispensable. Most teachers recognize the importance to physical growth of such factors as good nutrition, but in many instances they seem to be uninformed or misinformed concerning modern scientific health facts. The nurse is available to assist in extending this information.

It is important that teachers know the health and social agencies available to the community so that she may extend her units on teaching community facilities. However, the actual referral to such facilities is made through the office of the school nurse-teacher. In some school situations where a school nurse-teacher is employed only part time, it is the policy for teachers to make referrals to health and social agencies. However, in order to avoid duplication and to use the mechanics set up, the teacher should refer the problem to the school nurse-teacher, who then makes the clearance and referral.

Visiting teachers should be employed to teach children who are absent because of long illness such as rheumatic fever and accidents, such as fractured pelvis, as soon as the attending physician approves such study. Education of the permanently physically handicapped receives attention as the community fa-

cilities best afford. Intensive studies should be made by each community to determine how this can be accomplished with maximum benefit to students and a minimum expenditure to taxpayers.

Safety engineers should be consulted to determine the protective equipment used in workshops, for example goggles for steel working. These students should not only be protected, but should learn the importance of the use of such equipment.

Adequately supervised rest periods for children physically handicapped are desirable. This supervision need not be done by a registered professional nurse, but can be accomplished by someone cognizant of the art of relaxation.

Tools for manipulation at each age level should be supplied and appropriate activities taught.

School administrators should give consideration to the possibility of rest periods for the teacher in mid-morning and mid-afternoon sessions. Methods in which these periods could be accomplished may be puzzling, but it is worthy of sincere consideration to promote the health of the teacher, who is charged with the responsibility of educating our children.

It is desirable that teachers give consideration to the possibility of annual periodic health examination. Often there seems to be reluctance on the part of the teachers. Is this because there has been a negative approach? Surely, this intellectual group can appreciate the advisability and economy in early recognition of disease.

Attention should be given to the size of classes in relation to optimum standards, for example, teacher pupil load and cubic feet of space in the classroom.

Schools should plan cooperatively with other agencies for constructive recreational programs to meet the varied needs of individuals, families and community groups at various age levels.

Attention should be given to policies between the health services and other educational services, such as physical education, guidance, attendance, speech correction, sight saving and hard of hearing classes. Since the health examination is the basis for individual health improvement, the nurse should be consulted consistently for plans for students needing specialized service.

Health education committees should be established in each parent-teacher organization with the nurse-teacher member ex-officio.

Permanent health records should be kept by the nurse-teacher and shared with other members of the faculty. These should be

complete and include physical set up of the home and indicate social and economic progress or regression of the family.

Although this program may appear to be very comprehensive, it seems advisable that all these factors be included in all school programs which accept as the basic philosophy of education the education of the whole child for democratic living.

Footnotes:

1. Physical, mental, emotional and social aspects are included whenever the term health is used.
2. Reference: Chayer, Mary Ella—School Nursing—Putman.

* * * * *

Personal,—Dr. Clair E. Turner, formerly of the Massachusetts Institute of Technology faculty, has been appointed Assistant to President Basil O'Connor of the National Foundation for Infantile Paralysis, the organization announced today.

Prominent for his work in the field of health education and Chief Health Education officer for the Institute of Inter-American Affairs during the past war, Dr. Turner will be engaged in strengthening relationships between school systems and the various activities of the National Foundation.

Dr. Turner, whose home is in Arlington, Mass., has been associated with the University of California as Visiting Professor of Health Education and has been a consultant for the Illinois Department of Public Health and the Kansas State Board of Health.

* * * * *

Smallpox Declines,—Smallpox reached its lowest ebb in the United States in 1945, according to statisticians of the Metropolitan Life Insurance Company. Last year only 346 cases were reported in the entire country, and thirteen states and the District of Columbia were completely free of the disease. In Canada only five cases were reported, the statisticians say. The steady decline of the disease is strikingly brought out by the statisticians by contrasting the 346 cases in 1945 with the 48,920 cases reported in the United States as recently as 1930. The smallpox-free states last year, all located on the Atlantic seaboard, were Connecticut, Delaware, Florida, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and West Virginia and the District of Columbia. Top honors went to Rhode Island, which has not had a case since 1928. The poorest records were made by Indiana, with 50 cases; Arkansas, 31, and Mississippi, 25. *Journal A.M.A.*, Sept. 21, 1946, p. 16.

"AN EPIDEMIOLOGICAL STUDY OF AN OUTBREAK OF PERTUSSIS IN A PUBLIC SCHOOL"*

By Ann Clark Rodman, William L. Bradford, M.D., and George Packer Berry, M.D.

An epidemiological study of an outbreak of pertussis in a suburban public school near Rochester, N. Y., during the Fall of 1940 is presented. With the excellent co-operation of the school authorities, the health officer, the attending physicians and the parents it was possible to make a detailed study. The paper presents facts obtained during the investigation and details the manner in which the disease spread through the various grades. The incidence following schoolroom exposure as compared with that following family exposure and, in addition, observations of the incidence of the disease among vaccinated individuals are recorded.

While it is generally agreed that the incidence of pertussis among susceptibles following family exposure is relatively high, varying from 70% to 100%, little information is available concerning the incidence of the disease following schoolroom exposure. Fifty-seven cases, 51%, occurred among 112 susceptible children in this school, with an enrollment of 205. Forty (40) of the cases followed schoolroom exposure, while 17 may have occurred as a result of family contacts.

Among 94 children presumably exposed only in the schoolroom 40 (42.5%) developed pertussis as compared with 30 (83%) in a group of 36 with family exposure.

The epidemic began in the "H" family, consisting of the parents and five children, of whom only the father gave a prior history of pertussis. The mother and all five children developed the disease. Three (3) of the children entered school when it opened on September 2nd, a fourth was of preschool age and a fifth had been born on August 19th. The first child developed pertussis on August 17th.

During August, before the opening of school, the "H" children played freely with their neighbors, with the result, surprising perhaps, that the disease was transmitted to only a single child. When the school opened on September 2nd two of the "H" children, both whooping, attended school and remained there for two weeks. Within five days a third child in the family developed pertussis and was also permitted to remain in school. In this manner an active focus of infection was created in the first, third

*Abstracted by William E. Ayling, M.D., Health Director, Public Schools, Syracuse, N. Y., from the *American Journal of Public Health*, October, 1946, page 1156.

and fifth grades, from which the disease spread within the school.

The investigation of the epidemic, upon which this report is based, began shortly after it had reached its peak. It was therefore in no way connected with the institution of control measures. The method of investigation was to interview one of the parents and obtain information as to the name, age, sex and grade of the child; whether it had had whooping cough and if it developed it during this epidemic and if the child had received pertussis vaccine prior to the epidemic.

The spread of the disease within the first grade was interesting. When the date of onset of each case was recorded the resulting pattern showed the kind of periodicity that was to be expected. Four (4) cases resulted approximately two weeks after that of the original case of K. H. Seven (7) more appeared two weeks later and two more after a third two weeks' interval. This periodicity conforms to the usual accepted incubation period of pertussis and supports the contention that the contacts were made in the schoolroom. Of the total number of 18 susceptibles in this grade 14 developed pertussis.

In the third grade a similar schoolroom outbreak occurred,—a girl, B. H., aged eight, in the second week of the disease remained in the classroom for two weeks following the opening of school, during which time she was in daily contact with 19 children, 13 of whom were susceptible. Of these 13, 10 or 77%, developed the disease.

In the fifth grade there were 13 susceptibles among a group of 31 children. A boy, Z. H., another member of the "H" family, in the third week of pertussis introduced the infection, but only two other children developed the disease. This is probably explained by the fact that Z. H. was not very infectious at the time when he exposed his classmates.

It appears that family exposure largely accounted for the spread of the disease into the kindergarten and into the second, fourth and seventh grades. The origin of a single case in the sixth grade was not discovered. Observation of a small group of 29 children who had been immunized with vaccines prepared from freshly isolated strains of Hemophilus pertussis indicated significant protection from schoolroom exposure, particularly when the total dose of vaccine was 50 billion organisms or more.

Comments:

Miss Rodman has presented a very interesting study, which was well worked out and summarized. School health workers,

however, will wonder why this epidemic was not prevented to a large extent by exclusion of the members of the "H" family, who came to school when it opened on September 2nd, in the active stages of pertussis. Apparently two of these children, both whooping, attended school and remained there for two weeks and a third child was also permitted to remain in school after developing the disease. Other children were allowed to remain in the classroom from two to 12 school days after developing pertussis.

Early recognition of this disease, prompt exclusion and a careful observation of all contacts during the incubation period of 10 to 14 days would probably have prevented this epidemic or at least would have modified it greatly.* Wm. E. Ayling, M.D.

* * * * *

School Health Institutes,—The School Health Institutes held in March and April under the joint sponsorship of the State Departments of Public Health and Education have been instrumental in stimulating interest in problems of school health. Activities resulting from the institutes include the organization of follow-up meetings in some local areas, the organization of local committees representing schools and health departments, and the evaluation of school health programs by some school faculties.

While more persons attended the sessions than registered, a summary of the registered attendance at the institutes show that the registration of 513 at Oakland was the largest; of 151 at San Diego the smallest. The other registrations were 238 in San Bernardino, 225 in Sacramento, 213 in Fresno, and 208 in Santa Barbara.

Of the total of 1,548 persons registered, there were 768 public health nurses, 408 school administrators, school health nurses, and school teachers; 108 students; 94 doctors and dentists; 26 registered nurses; 8 community health educators; 47 persons engaged in various other professions; and 89 lay persons, including representatives of parent-teacher organizations. *California's Health*, California Dept. Public Health, June 30, 1946, p. 158.

*Based on portions of a thesis presented by Anne Clark Rodman in June, 1941, to the University of Rochester in partial fulfillment of the requirements for the degree of Master of Science in Bacteriology.

FACTS ABOUT POISON OAK*

Possibilities in combatting poison oak have been improved sharply by the recent development of inexpensive chemical sprays which will kill the whole plant, including the roots. In the past, eradication seemed practically impossible, even in parks, vacant lots, campuses, and other frequented areas. Now communities can drive it from such areas by initial sprayings followed by yearly check-ups.

The Berkeley Recreation Department has demonstrated the effectiveness of the new chemical agents and plans to use them in killing poison oak in the parks this year. The studies of Professors A. S. Crafts and W. A. Harvey of the Division of Botany in the College of Agriculture on the Davis campus indicate the effectiveness of two new chemical agents. Local commercial companies are ready to guarantee the elimination of poison oak by spraying and subsequent occasional respraying of new poison oak seedlings. The new chemicals, described later in this summary, are on sale in most seed and hardware stores.

The discomfort and seriousness of oak poisoning can best be described by its victims. They cannot be evaluated easily in dollars and cents. But it is possible to estimate the cost of illness from this source. A consideration of both the suffering and the cost suggest the elimination of poison oak from parks and other lands frequented by people, now that we have effective chemical killing agents available at moderate prices.

As a specific example, it can be seen from the record of the last two years at the Berkeley campus of the University of California that 0.65 per cent of the students are hospitalized annually with oak poisoning for an average of 6.9 days each, representing a per capita cost of 56 cents per student in the student body. In addition, 41 students per 1,000, who do not have to be hospitalized, seek medical aid for oak poisoning each year. If we add lost time costs for both groups and costs for medical care, drugs, and the expenses of those who seek desensitization, the total would be well over one dollar per capita.

The Nature of Oak Poisoning,—Poison oak dermatitis is very frequently serious enough to need medical attention.

Symptoms of poisoning are produced when the poison (urushiol) penetrates the outer surface of the skin. They may

*A summary of present knowledge and recent research findings prepared by the class in Health Education of the School of Public Health, University of California, under the direction of Professor C. E. Turner. Reprinted from *California Health*, State Department of Public Health, June 30, 1946, page 153.

appear from a few hours to five days or longer after exposure. An itching, burning sensation is first noticed and becomes intense as inflammation develops. Swelling of the parts involved usually occurs. There may be only reddening, accompanied by swelling, but more often vesicles or water blisters appear.[6]

Inflammation may continue for several days. Pus may later form in the vesicles, followed by the formation of a crust or scab. When the inflammation subsides, the outer layer of the skin peels off, leaving a layer of new skin.[6]

Secondary infections may result when bacteria enter broken areas of the skin.[4] In complicated cases more serious symptoms may be present, such as abscesses, enlargement of glands, pain, fever, and other constitutional symptoms.[4]

The Poison,—The poison (urushiol) in poison oak and poison ivy is a non-volatile phenol compound (a dializable fraction of an oleo-resin). It is soluble in alcohol, ether, acetone, carbon tetrachloride, and petroleum.[1] It loses its toxicity when oxidized; but it oxidizes slowly upon exposure to air. It is oxidized by alkaline peroxides. The plant contains an enzyme, laccase, which oxidizes the poison when the plant is injured and its juices exposed to air.[1]

A trace of the poison (0.001 mg.) is enough to produce local poisoning.[1] It remains toxic for weeks or months when dried on clothing or other material, in the bark of the plant, or in leaves or branches which have been cut from a plant.[3] It does not cause skin irritation in animals.[4]

Urushiol occurs in special resin cells or resin canals in the bark, roots, stems, leaves, and fruit. Pollen grains do not contain it.[3]

How Does One Contract Poison Oak Dermatitis,—Urushiol reaches the skin through contact with the plant, with smoke from burning plants, or with surfaces upon which microscopic quantities have, in some way, been deposited.[6,4] The transfer of the poison by such agencies as clothing, shoes, tools, soil, animals, and other plants which have come in contact with poison oak, makes it very difficult to avoid. Possibly insects which have touched or fed upon the juices of the plant may transfer the poison.[1] It is transferred from one part of the body to another by scratching, touching, or rubbing.[3] The serum from the vesicles does not cause dermatitis.[3] Urushiol is not air-borne except upon soot particles in smoke when the plant is burned.[1]

Susceptibility,—Careful studies indicate that there is no complete, permanent immunity to oak poisoning, either natural or ac-

quired, although some persons can handle poison oak without being affected and the sensitivity of a susceptible person can be temporarily reduced by certain medical measures.[1,4,6]

Children and other persons become sensitive to poison oak following their first contact with it.[1] Some persons become extremely sensitive although the sensitivity slowly diminishes if there is no further contact with the plant for several years.[1] Successful preventive treatment with urushiol preperations reduces sensitivity for a few weeks or months, but does not produce a permanent immunity.[1] The old practice of chewing the leaves does not protect against oak poisoning but often produces symptoms.[1]

Some persons have a marked resistance to the action of the poison, although the skin becomes inflamed upon prolonged exposure to urushiol. Such a person may have had repeated contact with the plant without symptoms, only to develop poisoning on subsequent exposure.[6]

Appearance and Distribution of the Plant,—Poison oak grows in many forms but it may be recognized by the leaf arrangement in which three glossy leaflets are grouped together. The individual leaflets vary widely in shape from the notched oak leaf shape to the oblong smooth-edged leaf. They are red in the spring when small, green in the summer, and red or scarlet in the fall. The plants may be slender vines on the ground, thick climbing vines, scattered vertical stocks, or sturdy bushes growing sometimes to a height of eight feet or more.[6]

The plant is so widely distributed in many areas that it is wise to assume its presence until its absence is proved, whenever one goes to the roadside, fields or woods. The plant spreads by underground roots.[4] New plants are seeded directly by fruit which has dropped to the ground, and by seeds in the droppings of birds which have eaten the berries.[3]

How to Avoid Oak Poisoning,—If possible keep away from hills, fields, woods, and all land which you suspect may contain poison oak.

If you do have to go where poison oak grows:

1. Learn to recognize the plant in all its forms by the leaf structure with its typical grouping of three leaflets. Also be on guard against leafless stems, bushes, and vines during the winter months.
2. Assume that the vines or bushes of poison oak are present until you have made sure they are not.
3. Wear protective clothing which can be cleansed by washing

with alkaline soap or a chemical agent for removing the poison (gloves, boots, overalls, jacket, shirt). Clothes or tools can be decontaminated by immersing for fifteen or twenty minutes in a 1 per cent solution of calcium hypochlorite.[5]

4. At no time touch the face or any part of the body with hands or gloves which may have urushiol upon them.[3]
5. Upon returning home wash thoroughly using plenty of yellow laundry soap. Apply soap and rinse at least twice.[6]
6. Avoid contact with clothing, tools, animals, soil, or other surfaces which may have been contaminated.[6,4]
7. Avoid all smoke which may contain soot from burning poison oak.[1,4,3]

Chemicals to Kill Poison Oak,—Two chemicals, 2,4-D and ammonium sulfamate, are supplanting older methods of killing or digging out the plant. With the aid of these chemicals, commercial companies engaged in weed control are now ready to guarantee the complete eradication of poison oak.

2,4-Dichlorophenoxyacetic acid is a hormone-like chemical which in small quantities stimulates growth but kills broad-leafed plants when applied in greater concentration to the actively growing leaves. It is neither poisonous to animals, nor corrosive to metals.[4] It is not a fire hazard. It would temporarily sterilize soil if the soil were drenched with it, but has little or no effect upon the soil when used as a spray on poison oak. Grass is not injured by 2,4-D. Other adjacent broad-leafed plants may be injured if hit by the spray, but they are not likely to be killed unless seriously wetted.

2,4-D is made by several chemical companies under different trade names in both powder and liquid form. When properly applied, a dilution of 0.2 per cent of 2,4-D kills the whole plant. Directions for diluting to produce a suitable spray for poison oak are printed on the packages of the various commercial brands.

Some plants may not be hit in the first spraying, or a remote lateral root may stay alive and send up a shoot. A second spraying three or four weeks later to hit the few remaining plants may be needed, therefore. An occasional missed plant or a new plant coming up from seed may appear the next spring and need spraying.

Spraying should be done when the leaves present a large surface but before the plant has completed the season's growth and becomes dormant. 2,4-D is taken up by the leaves and appears to destroy the chlorophyl and cause the walls of the growing cells of

the plant to rupture. The leaves begin to wilt after a few days, but a month is required to produce killing action.

Retail prices of a 40 per cent concentrate of 2,4-D are from $8 to $11 a gallon. In quantity lots of five gallons or more it can be bought at $6.50 per gallon or less.

Ammonium Sulfamate,—On fully mature plants late in the season, ammonium sulfamate is more effective than 2,4-D. It is more expensive and somewhat corrosive to metals, although not explosive or poisonous to animals. It kills other plants, including grass, and sterilizes the soil for a time when enough is used to wet the ground. This may be desirable in industrial areas.

The cost is about 30 cents a pound at retail and 15 cents a pound or less in quantity. One pound per gallon of water is recommended in making a spray for poison oak.

Steps in Killing Poison Oak,—If you have a small area to be cleared of poison oak, it may be most convenient and least expensive to employ a weed control expert. If you spray the plants yourself:

1. Be sure the chemical is well mixed in sufficient concentration.
2. Spray when the leaves are developed sufficiently to give a large surface and when the plant is growing rapidly. *2,4-D is not effective late in the season when the plant has become dormant.*
3. Spray the whole plant and cover the leaf surfaces as completely as possible. Neither moisture on the leaves, nor rain a few hours after spraying will prevent the killing action of the spray.
4. If a few plants have survived, kill them by spraying a second time in three or four weeks.
5. Examine the area the next spring and kill any new plants which may have come up from seed.
6. Clean spraying equipment thoroughly before using other sprays on cultivated plants.

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Child Health Services,—The Illinois Study of Child Health Services of the American Academy of Pediatrics has been organized under the leadership of Dr. Henry G. Poncher, Chicago, the academy state chairman. The Illinois study office is located at 1456 Sherman Avenue, Evanston, with Dr. George S. Frauenberger, Evanston, as executive director and Dr. Jack W. Singleton, Springfield, as executive secretary. A study guide describing the scope, organization and methods of the study is available to those interested. The study has been organized to reach every physician in the Illinois district, county and branch society. Study chairmen have been appointed who are working closely with each county and branch medical society and with representatives from state and local professional, service and lay organizations interested in child health care, so that when the tabulated data are complete the structure for using the data as a basis for sound planning for necessary expansion of child health services will be established and functioning. *Journal A.M.A.*, Sept. 21, 1946, p. 159.

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EDITORIAL

No Physician Present,—Indications today were that there would be no physician or nurse in official attendance for high school football games Saturday afternoon. There was none last Saturday because the Health Department has withdrawn its physicians, under protest by the Board of Education.

The Health Commissioner explained the physicians attended the game voluntarily and they now find their private practice "makes it impossible for them to continue to do so." The School Superintendent said the Board of Education "is highly exorcised" over the situation. Coaches have been instructed to have qualified first aid-attendants present.

Nursing Service Curtailed,—Curtailment of nursing services in the city's high schools was defended by the Health Commissioner at a meeting of the Board of Education yesterday.

He asserted that his department is concerned with the prevention of disease and not with "putting bandages on fingers or giving a potion for a pain."

The matter was tabled until the board's next meeting.

The above abstracts from the newspapers of a city of considerable size bring to light a startling and even a depressing condition, about which parents as well as school teachers and officials should be seriously concerned.

The City is one in which the school health services are carried on under the control and budget of the city Board of Health.

The fact that no allotment from the budget has been made for this essential service of medical protection at high school inter-scholastic contests, and the attitude of the Commissioner of Health is one of the group of conditions that make so many persons who are concerned for the health and safety of school children feel strongly that the proper place for the control of these services rests in the Board of Education, rather than in the Board of Health.

The City is itself involved ethically and morally, and may become seriously involved financially. Inter-scholastic athletic compe-

tition is carried on with the approval of the Board of Education which is the agent of the City. If a player were to be gravely injured and if there were no physician in attendance, the City probably becomes liable for any unfortunate after-effects. Moreover, decisions of the Courts indicate that the school officials responsible for the supervision of interscholastic athletic competition would be held financially liable if they had not provided the protection of a physician at the game—a recognized procedure for athletic contests.

In Pittsburgh, Pa., school physicians attending inter-scholastic athletic contests are given an equivalent amount of "time off" to balance their total weekly time.

In Los Angeles, Calif., school physicians attending such contests are given a flat fee of $8.00 per afternoon.

In both of these cities the school health services are administered by the local Board of Education.

The curtailment of nursing service in the high schools is not only running counter to the trends and practices in the schools of our more progressive cities, but may fail to "prevent disease". Skilled care of even minor injuries may prevent severe infection. Some of these schools are Vocational schools.

Then, too, the unskilled person cannot recognize the severe injury or illness which may appear to be minor.

These incidents and expressions of attitudes indicate a great need in that city at least, of definite study of the functions and activities of the school health services.

With the increasing pressure from the public for more adequate health protection as a part of governmental duty, this is no time to advocate restriction of these services.

This writer has seen no such expression for restricting school health activities coming from any city where these activities are operating under the guidance and control of the Board of Education.

That the Health Department apparently is concerned only with the "prevention of disease" (apparently communicable disease is meant by the Health Commissioner's statement) is an expression of conditions and attitudes that is not in accord with the present day concepts of school health service.

A later press article indicates that the Board of Education intends to establish its own nursing service in the high schools. Although this is a step in the right direction, it is an indication of beginning chaos in the school health program of that city.

Succinctly: if the Board of Health cannot or will not provide adequate health services in the schools, the Board of Education must.

On this the parents will insist.—*C. H. K.*

ABSTRACTS AND NOTES

Campaign to Combat Heart Disease

The American Heart Association, Suite 805, 1790 *Broadway*

The initiation of a nationwide program of public education and information on diseases of the heart was announced today by officials of the American Heart Association, Inc.

The program, according to Dr. Howard F. West, of Los Angeles, president of the association, will have as its prime purpose "the dissemination of educational information to the public in a broad effort to retard the rapid increase of heart disease throughout the nation.

"Fatalities ascribed to diseases of the heart," Dr. West said, "are greater than the total of the next five leading causes of death. It is essential, therefore, that the public know more about the significance of blood pressure, infections, over-weight, rheumatic fever, and other factors which contribute to various types of heart disease."

It is estimated that there are more than 4,000,000 people in the United States today who have heart disease. Diseases of the heart and blood vessels, including cerebral hemorrhage, accounted for 575,000 deaths in 1944. Fatalities from the five other leading causes in 1944 were as follows:

Cancer	171,000
Accidental Deaths	95,000
Nephritis	92,000
Pneumonia	64,000
Tuberculosis	55,000

In addition to accounting for more fatalities than these five causes combined, heart diseases are responsible for an annual loss of more than 100,000,000 work days.

Officials of the American Heart Association state that the association's program will call for emphasis on educational work with schools, parent-teachers' associations and other groups concerned with children because of the importance of rheumatic fever and heart disease. According to recent surveys, this scourge of children causes more than five times as many deaths as the combined total of deaths from infantile paralysis, scarlet fever, diphtheria, measles, meningitis, and whooping cough. It is a serious disease among adults, too, as illustrated by the estimated 40,000 veterans who acquired the disease during their recent military service.

The War forcibly dramatized the need for a national health program designed to retard the increase in heart disease cases. An estimated ten per cent of the men rejected by the U. S. Selective

Service were disqualified because of cardio-vascular diseases (diseases of the heart and blood vessels). In a survey of a special sampling of 5,000 rejectees for cardio-vascular diseases in five major cities—Chicago, New York, Boston, Philadelphia, San Francisco—50% had been disqualified because of rheumatic heart disease. The second greatest cause of rejection due to cardio-vascular diseases was hypertension (high blood pressure), which accounted for 25.6% of the disqualifications.

The educational campaign of the American Heart Association will reach its climax during National Heart Week to begin on February 9, 1947, which includes St. Valentine's Day. It is expected that all branches of medicine, pharmacy, insurance, industry and many other groups interested in health and public welfare will cooperate fully.

* * * * *

The School Physician,—The school physician has primary responsibility for the medical guidance and service program in the school. He assists the entire school personnel to make their most effective contribution to optimum heatlh by coordinating the medical and nursing services and other school health work with classroom instruction, physical education, recreation, and lunchroom and nutrition services. Specific duties and functions include: Periodic medical examination of children and advice to parents regarding medical service for their children; professional consultation in health education; establishment of policies for the prevention and control of communicable diseases in the school and technical assistance in carrying out the policies; participation in the development of programs for school safety and safety education; supervision of teachers and school nurses in systematic and continuous observation of the health of pupils; selection of pupils for special educational programs; advice on adjustments in curriculum to promote the health of children; general supervision of sanitation and other environmental health factors within the school building; medical advice to school authorities on mental and emotional health influences; professional guidance in the field of teacher's health, and integration of the school health program with the public health program of the community.

The future outlook for school physicians is quite promising. There are many school systems without adequate programs because of a lack of funds. The emphasis on the findings from examinations made by the Selective Service System has focused attention on the need for intensified health programs in the school. When funds become available for an expansion in programs there will

necessarily come an increase in the number of physicians employed.

Opportunities for advancement in this field usually come through promotion from subordinate to administrative positions, by moving from smaller to larger school systems, by promotional progress through the health department, and through the growth and expansion of local, state and national programs.

The school physician may be a full- or a part-time worker. The full-time career school physician will necessarily need to meet higher qualifications than the part-time physician who devotes only part of his time to school health work. They both must have earned a degree of Doctor of Medicine and have served an internship. They should have special training and experience, including clinical experience, in the fields of pediatrics or internal medicine.

The full-time school physician also needs special training and experience in the basic principles of public health. The requirements for the degree of Master of Public Health in most schools will provide the necessary education.

The school physician needs a thorough knowledge of the growth and development of normal children, of the diseases of children, and of the value, methods and limitations of advisory service to parents, teachers, school administrators and pupils concerning the promotion of optimum growth and development. He must have a knowledge of the overall school program and the types of adjustment possible and necessary for the health of children. From *Employment Opportunities in Public Health*—Committee on Professional Education, American Public Health Association and U. S. Public Health Service.

* * * * *

Training of School Physicians.—David Van der Slice, M.D., Director of the Children's Health Center of the Charles Stewart Mott Foundation of Flint, Mich., recently announced the selection of Arthur Tuuri, M.D., as the recipient of the 1946 scholarship awarded by the Foundation.

In making this announcement, Dr. Van der Slice also explained that the purpose of the scholarships is to afford means for training school physicians in public health and education to supplement the usual two years of training in pediatrics required for qualification for certification by the American Board of Pediatrics. One scholarship a year is awarded. The amount of the scholarship is $2,400, paid $100 a month during the period of the scholarship. During the second year of residency, courses in public health and education, totalling 12 semester hours, will be taken at the University of Michigan. These can be applied against the hours re-

quired for a graduate degree in public health.

Persons eligible for the scholarship are: citizens of the U. S. A., graduates of a Class A medical school who have completed one year of rotating internship. Applications should be made to Dr. Van der Slice at Flint, by April 1st.

Following his second year of scholarship, as resident in Pediatrics, Dr. Tuuri will serve a minimum of one year as school physician in Flint as a member of the staff of the Mott Foundation sponsored school health program.

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The Health Educator,—The health educator assists people to become intelligently aware of individual and community health problems and to share the responsibility for their solution, for without individual participation many health problems cannot be solved. The health educator works as a regular member of the local health department, or he may be employed by a school or a voluntary health agency. Many agencies have openings for trained workers now and the demand is increasing. A limited number of fellowships covering stipends and tuition is available for specialized training of those with the basic qualifications. These qualifications are a bachelor's degree, with a major in science and training in sociology and education, and experience as a teacher or a community worker. Necessary additional training required is nine months of academic work and three months of supervised field experience leading to a Master's Degree in Public Health.

Specific tasks of the health educator are:

In the local community.—He assists in planning adequate health education programs for the community; he works with the health officer, nurses, sanitarians and other public health personnel on community programs in the control of communicable diseases, improvement of sanitation, reduction in death rates among infants and mothers, and many others; he works with community leaders on local health problems by organizing the community to solve specific problems; he provides consultation and guidance to various individuals and groups in developing and improving health education activities, such as the Parent-Teacher Association, Service Clubs, etc.; he plans training programs for personnel in health agencies; he organizes and assists in conducting radio programs, meetings, conferences, speakers' bureaus; he prepares or assists with news releases, reports, printed materials, booklets and visual aids, such as posters, exhibits, motion pictures.

In the schools.—Basic preparation in education is essential, so

that he may guide and supervise the work of teachers. He cooperates with school administrators, physicians, nurses and teachers in working out an adequate health education program; he assists in developing heal education curricula; he plans in-service training programs for teachers on health; he stimulates the solving of health problems by pupils in the classroom.

In general to perform these functions, the individual should have ability in public speaking, facility to conduct public meetings, skill in the development of educational and visual materials, knowledge of press relations, radio methods and conference techniques. Because the individual must meet with the public, he must have a pleasing personality, as well as initiative and creative ability.

The health educator has unusual opportunities for service and working with people. From *Employment Opportunities in Public Health*—Committee on Professional Education, American Public Health Association and U. S. Public Health Service.

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Accidents — Chief Killer of School Children.—Accidents take the lives of about 6,500 school children a year in the United States. Although the death rate from accidents among youngsters has declined markedly in recent decades, the reduction has not kept pace with the decline from disease. As a result, accidents are now the leading cause of death among school children.

Motor vehicle accidents accounted for 185 deaths, or for more than one-third of the total of 507 deaths from accidents among boys, and for 73, or more than two-fifths of the 171 accident fatalities among girls. The great majority of these motor vehicle accidents occurred while the youngsters were crossing the street or highway, or while they were playing in the road.

Drownings were responsible for nearly one-fourth of the accidental deaths. Almost one-fourth of those drowned were reported to have fallen into the water while playing on the bank of the water, on a rock ledge, dock, bridge, guard rail, or overhanging tree. Several of the youngsters lost their lives when they fell through thin ice on ponds or lakes. About one-fifth of the drownings occurred outside the water sports season May to September.

More than 10 per cent of the fatalities in this insurance experience were due to burns, conflagrations, or explosions. Nearly one-half these victims were trapped in burning homes. It is clear from the table that younger school children still play with matches despite the widespread effort that has been made to impress upon parents the danger involved. A number of children succumbed to burns suffered while playing with or near flammable liquids. Unfortunately, children, and for that matter, many adults as well,

do not realize adequately the great danger of fire and explosion from kerosene or other flammable fluids, especially gasoline.

Firearm accidents played an important role in the toll among boys at the school ages. Forty-eight, or nearly 10 per cent of the fatalities among boys, resulted from shooting accidents. Playing with, examining, or showing guns to companions were common causes of accidents of this kind. Eight of the boys, most of them in their early teens, were killed in hunting accidents. Now that another hunting season is getting into full swing, parents should take heed of the great dangers youngsters run in setting out to hunt alone or with other inexperienced young companions. Aside from these hunting fatalities, accidents resulting from shooting at tin cans or other targets caused the death of five boys.

Seven girls and one boy in this insurance experience accidentally strangled themselves or broke their necks while playing with ropes. In several of these instances the youngster was attempting to imitate a hanging seen in the movies or read about in stories. Similarly, the fascination that railroad trains and tracks hold for young boys results in numerous accidents. Nineteen of the insured youngsters were killed last year in accidents on railroad rights-of-way, and of this number, seven were killed while walking along or playing on tracks. Two of the victims were actually sitting on the tracks and watching trains pass.

It is outstandingly clear from the analysis here presented that many children could be saved from accidental death if parents kept closer watch over them. Abstracted from *Statistical Bulletin*, Metropolitan Life Insurance Co., September, 1946.

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Physically Handicapping Conditions in Children to be Reportable,—Effective January 1, 1947, physically handicapping conditions in children will be reportable to health authorities. In making these conditions reportable, the State Board of Public Health defined a physically handicapped child as a person under 21 years of age who has physical defects resulting from congenital anomalies or acquired through disease, accident, or faulty development.

The following conditions are reportable:

1. Defects of an orthopedic nature, due to infection, injury, or congenital malformation.
   Examples: Club foot, poliomyelitis paralysis, cerebral palsy, etc.
2. Defects requiring plastic reconstruction.
   Examples: Cleft palate and lip, contracture or disfigurement due to burns, etc.

3. Defects requiring orthodontic reconstruction.
   Examples: Dental-facial deformities accompanying cleft palate, etc.
4. Eye conditions leading to loss of vision.
   Examples: Cataract, strabismus, etc. Ordinary refractive errors are excluded.
5. Ear conditions leading to loss of hearing.
   Example: Chronic otitis media, chronic blockage of Eustachian tubes, congenital deafness, etc.
6. Rheumatic or congenital heart disease.
   (Regulations now in effect require the reporting of acute rheumatic fever only.)
7. Other disabling or disfiguring deformities.
   Examples: Extrophy of the bladder, severe hemangioma, etc.

Efforts will be made to institute reporting on a voluntary basis in local areas prior to January 1st to assist in working out procedures. *California's Health*, California Department of Public Health, Sept. 30, 1945, p. 45.

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Filth in Print,—One of the periodic drives against salacious literature available to youth has recently been publicized. It has not been confined to the frankly vicious variety but indicts also our "best seller" fiction which is read openly and unashamedly by respectable people. The characters in some of these novels are frankly uninhibited in their sex lives which are realistically portrayed. Contrary to all medical experience, the talented and beautiful heroines are apparently immune to the real-life hazards of promiscuity: abortions, extramarital motherhood, or venereal diseases. They sail through the book as paragons of virtue unsmirched in body and mind.

On almost every page some of these fictional characters consume large quantities of alcohol, with absolutely no effect on their health or their morals. Their language is as conventional and uninhibited as their conduct.

This sort of literature has inundated the world since printing was invented. It is like the tides of the ocean and the tide is always higher after a war. When a wave washes too many children against the rocks, public indignation boils over and another drive against questionable literature is on. These drives are necessary, no doubt; they show that public decency is not dead; but they only temporarily throw oil on the troubled waters. They overlook the obvious fact that this sort of literary fare is served because a large segment of the public demands it—within certain limits. The public demands it because so many men and women

are inhibited, frustrated, or disorientated in their sex lives. They are befuddled and bewildered because society has persisted in keeping tightly drawn the iron curtain of secrecy about sex. The only chinks in the curtain are those made by the purveyors of pornography; and the light they admit is exceedingly murky. Readers of spicy novels find vicarious release from inhibitions imposed by conventional society.

In these circumstances it is next to impossible to keep children from reading books their elders devour so avidly and quote so extravagantly. And of course the best sellers are visualized on the screen and adolescents view them with delight. They are shocked and thrilled—but less so than the adults, because they are more "advanced" in their ideas—more "modern." The adult thrill is largely vicarious and retrospective; the adolescent is stimulated to experiment and emulate.

If we are really in earnest about improving the public taste in literature and protecting youth from obscenity, vulgarity, and vice, we will insist on sane, enlightened sex education in our schools, colleges, and adult education classes. Education will do more to neutralize the poisonous effect of pornographic literature than all the repressive measures society has at its command.
Editorial in *Health Education Journal*, Health Service Section, Los Angeles City Schools, Oct., 1946, p. 11.

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Nutrition Today — Some Global Implications,—"Nutrition in the World Today" was the over-all theme of the fifteenth annual convention of the New York State Dietetic Association held recently in Syracuse. The subject was analyzed by leaders in nutritional science who brought to the forefront such problems as the nutrition of the civilian populations of Europe and Central America, and influences affecting the eating habits of people. Speakers on the role of nutrition in medical practice, nutrition in pregnancy, and iron metabolism focused attention on some of the newer concepts in diet therapy.

Food Problems of Foreign Countries

Assessing the nutrition of civilian populations in Europe, Dr. John B. Youmans, associate professor in internal medicine, Vanderbilt University School of Medicine, and author of *Nutritional Deficiencies—Diagnosis and Treatment* and other publications, said that in some parts of the world there are endemic deficiencies, and starvation or near-starvation is common at all times. In others, there are epidemic shortages such as those now prevalent in Europe as a result of the war. Data obtained in Germany through studies in institutions and clinics and by sampling of the general

population under the American Military Government suggest that the dietary there has been sufficient to sustain a fair physical status but food stocks are now low.

Robert S. Harris, Ph.D., professor of nutritional chemistry at Massachusetts Institute of Technology, spoke on nutrition problems of Central America. He reported that studies of more than one hundred Mexican foods made in cooperation with the Pan-American Sanitary Bureau showed that many were superior in nutritive value to those of the United States and cost less. In Mexico, as in many other countries, wise use of native foods would do much to correct nutritional deficiencies.

Factors which must be dealt with in changing food habits were discussed by Kurt Lewin, director, Research Center for Group Dynamics, and professor of psychology, Massachusetts Institute of Technology. Knowledge alone, he pointed out, is of no value unless society makes use of it. Educators who hope to alter food patterns through teaching should study concrete situations to gain insight into such basic influences as the culture of the individual, racial and economic background, food likes and dislikes, and other forces which underlie food choices.

Diet Therapy

Edward C. Hughes, M.D., professor of clinical obstetrics, Syracuse University School of Medicine, and author of numerous articles on diet, spoke on "Nutrition in Pregnancy." He emphasized the importance of a diet high in all essential nutrients, particularly protein, both to the health of the mother and the development of the fetus. He drew attention to the desirability of a diet rich in carbohydrates during early pregnancy and of an abundance of vitamins and minerals, especially calcium, phosphorus and iron, throughout the prenatal period. The B vitamins are of special significance because of their role in carbohydrate metabolism and because of damage to the very young fetus, demonstrated by animal experiments, as a result of vitamin B deficiency. Iron is an important requisite of the prenatal diet because infants may develop a deficiency in this mineral after birth if it was lacking during pregnancy.

The use of radio-active iron in the study of iron metabolism was discussed by P. F. Hahn, Ph.D., associate professor of biochemistry at Vanderbilt University School of Medicine.

Ralph R. Scobey, M.D., associate professor of clinical pediatrics, Syracuse University School of Medicine, currently interested in protein intake and metabolism as it affects the health status of children, highlighted the signal importance of protein not only as a

source of nitrogen for body growth and repair, but also because of its effect in stimulating metabolism and its role in detoxification and phagocytosis. He stressed the increasing recognition of the importance of protein-amino acids as manifested by the use of plasma in shock, burns, and peptic ulcer, and the use of methionine in the treatment of cirrhosis of the liver. Clinical observations of children have demonstrated, Doctor Scobey said, that protein deficient diets lead to neuropathic conditions, functional nervous imbalance, and other symptoms.

Dr. C. A. Sargent, district health officer, New York State Department of Health, envisioned new horizons in the application of nutritional science. He underscored good dietary as essential not only to proper development and growth, but also to the maintenance of a high level of physical resistance throughout life.

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Stream Pollution,—"If you want to clear the stream get the hog out of the spring." (American Proverb).

When the early pioneers settled in the prairie lands of Illinois, the rivers and lakes were abundant with fish and easily furnished water for drinking and washing. Then as more settlers came to Illinois, small communities sprang up and with them came the usual accumulation of debris and filth from their own bodies, their livestock and their small businesses.

The population kept increasing by leaps and bounds. From a predominately agricultural state, Illinois became a big industrial state—"Hog Butcher for the World," the "Nation's Freight Handler," one of the leaders in the production of coal, oil, cheese, and "Kentucky" bourbon. All of these donated their waste products to the rivers which were already overloaded with the increased amount of human sewage.

There were epidemics — typhoid fever, dysentery, diarrhea, jaundice — resulting from the human pollution. Wild life was affected — fish died by the tons; the plant life "by thy rivers gently flowing" curled up and died; cows waded in the water, drank it and died, or worse contaminated their milk; salt water brine and acid mine wastes burned the vegetation leaving it the utter desolation of a war-bombed area.

Something had to be done — and slowly it was done, and is still being done. Scientists had discovered that human sewage could be treated to prevent disease, so towns and cities started constructing sewage plants. At the present time about 75 per cent of the entire population of Illinois has access to sewage treatment. Due to lack of materials and labor, the attack on the sewage prob-

lem paused during the war, but already many towns have started enlarging old plants or installing new treatment plants. Since the first of the year 31 municipalities have permits for construction of new projects and an additional 223 have engaged engineers to make surveys and prepare plans for treatment works.

The industrial waste problem, arising from the magnitude and diversity of industries in Illinois, has been attacked first from the viewpoint of using the wastes to the financial benefit of the industries. This has proved successful in some cases, particularly with the distilleries and the milk-producing plants, both of which can use their waste products as a stock feed.

In other industries in which the waste products cannot be used, the most inexpensive but adequate waste disposal system is advocated. For example, in the oil fields, the most common method is to return the salt water or waste oil back into the earth from whence it came. A local underground irrigation system has also been used with satisfactory results in cases of the small slaughtering houses which are springing up in connection with frozen food lockers.

Each of the various industries presents a different problem and progress has been made in each field. At the present time the National Council for Stream Improvement through the generosity of the Mellon Institute is doing research in paper mill wastes and definite improvement is anticipated along these lines. Many commercial industries, such as the national and state milk organizations, are also doing research which is expected to contribute valuable data to industrial waste problems.

A further aid to the control of stream pollution is the cooperation between states which use the same waterways or whose rivers run into the other states, and various interstate agreements have been set up to prevent one state from spoiling the rivers of another state.

As Illinois gets farther away from its pioneer days, the problem of stream pollution becomes more complicated. Shifts in population, the establishment of new industries, and changes in procedures of established industries constantly introduce new waste problems. However, under the leadership of the State Sanitary Water Board, composed of a representative of the manufacturers and the Directors of the State Departments of Health, Agriculture, Conservation, and Public Works and Buildings, Illinois is working toward the day when all lakes and streams in the State can be used safely for public water supplies, fishing, and aquatic recreation. *Illinois Health Messenger*, Dept. Public Health, June 15, 1946.

Antecedents of the National Tuberculosis Association,— . . . "There is a wealth of records to attest that the birth of the present National Tuberculosis Association was exceedingly painful. Differences of opinion there were, some mild, others acrimonious. The principles of organization which we accept today with little thought or question were fraught with bitterest debate at the beginning of the present century.

"It seems clear now that, broadly speaking, there were at least six forces or factors which had to be welded into one to make the present national movement. Their impact on society was not yet fully felt in 1892.

"The first force was exerted by a number of private physicians interested in tuberculosis as a disease. Most of the leaders in this group were members of the American Medical Association and the American Climatological Association. These men were concerned primarily with tuberculosis as a disease in the individual.

"The second influence was that of the public health officers in the respective states and cities throughout the country. Practically all of these men were members of the American Medical Association and the American Public Health Association. They were interested in tuberculosis largely as a problem affecting the public health. In this connection it should be remembered that in 1900, the death rate from tuberculosis in the United States was 194 per 100,000 of population.

"The third influence was that of the physicians who had established institutions for the care and treatment of tuberculosis or were engaged in medical service in such institutions.

"The fourth influence was that exerted by laymen who recognized the devastation wrought by tuberculosis among the people and who gave thought or financial assistance to bring about an organized resistance against the disease. At the outset, this group was small. It was recruited among the philanthropists, lawyers and those whom we term today, social workers.

"The fifth force came from a minute group which devoted itself to the organization of the campaign against the disease. Today they are termed 'tuberculosis secretaries.' They were interested in the disease as a medical, institutional, public health and social problem. They later became one of the chief forces in the welding process.

"A sixth factor was the attitude of the victims of the disease, their families and friends. That this group was virtually mute but ready for a unified leadership is attested by the subsequent history of the movement in this country.

It is only necessary here to point to such men as Drs. Vincent

Y. Bowditch, Edward L. Trudeau, William Osler, Hermann M. Biggs, Lawrence F. Flick, Henry Barton Jacobs and Edward O. Otis, to mention a few of the outstanding leaders. Robert G. Paterson, Secretary, Committee on Archives, National Tuebrculosis Association. From the *Journal Lancet*, April 1946, page 117.

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REVIEWS

The Health of the School Child, *Gertrude E. Cromwell, R.N., M.S.*, W. B. Saunders Co., Philadelphia, 1946. pp. 256. Price $2.50.

This text begins with a chapter containing a resume of the more important factors in child growth and development. Other chapters deal with school sanitary provisions and "housekeeping," with the school medical appraisal, the control of communicable disease in the school, conservation of sight and hearing, the physical education program, health education, the handicapped child, the activities of the school nurse, home, school and community relationships, and the evaluation of school health supervision.

Miss Cromwell is supervisor of the Bureau of Health Education and School Nursing in the Des Moines Public Schools, and has an excellent educational point of view; the point of view that the school physical examination should be a health appraisal of the child rather than an effort merely to find his noticeable physical defects; and that the school is an educational institution, not a hospital with clinics for the treatment of children who should be treated by the family physician with parental support. The indigent should be treated at public expense, but not from monies levied for educational purposes. This excellent text will give the school nurse a definite and modern picture of the needs and program which she faces. Chas. H. Keene, M.D.

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Your Health and Safety, *Jessie Williams Clemenson and William Ralph La Porte.* Harcourt, Brace and Co., New York, 1946. Revised (3rd) edition. pp. 592. Price $2.12.

This text is divided into seven parts; a brief but essential section on the body itself; a longer 126-page section on the operation of the body, and sections on personal appearance, the nervous system, its functioning, prevention of disease, and a 120-page section on personal and public safety.

Chapters begin with a Study Outline and end with a Reference List. There are numerous illustrations and suggested activities that should interest pupils of the secondary school level.

The topography and organization are in accordance with the present-day accepted theories. Chas. H. Keene, M.D.